METHOD OF PROGRAMMING A FLASH MEMORY THROUGH BOOSTING A VOLTAGE LEVEL OF A SOURCE LINE

Abstract

A method of programming a flash memory through boosting a voltage level of a source line. The flash memory has n memory cell transistors cascaded in series, a local bit line positioned above the n memory cell transistors, a buried bit line positioned under the n memory cell transistors, and a source line positioned under the buried bit line. The method includes inputting a word line voltage to a control gate of a kth memory cell transistor, and after floating the local bit line, inputting a source line voltage to the source line for inducing an FN tunneling effect inside the kth memory cell transistor through capacitance coupling between the buried bit line and the source line.